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CERCOPIDAE OF THE VICINITY OF WASHINGTON,  
D. C., WITH DESCRIPTIONS OF NEW VARIETIES  
OF CLASTOPTERA (Homoptera).

BY W. L. McATEE.

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The basic identifications upon which this paper is based were made by Mr. Edmund H. Gibson, when he and the writer planned a joint essay on all the Nearctic Cercopidæ available in Washington collections. That plan becoming impracticable, due to Mr. Gibson's change of occupation, opportunity is taken to list the Cercopid fauna of the District of Columbia and vicinity. The manuscript of the paper has been prepared, in its entirety, by the author, this including preparation of the keys and more or less revision of the local forms of the genus *Clastoptera*. Mr. Gibson, however, deserves credit for recognizing that the black variety of *C. proteus* lacks a name and the name given to it on a subsequent page should be considered of his authorship.

The number of species of Cercopidæ in the United States is small and the District of Columbia apparently has a fair share; possibly one or two more species than here listed may occur. The occurrence of species at Plummers Id., Md., and vicinity is indicated in the list, either by the actual locality records or by the initials: P. I. and V. P. I.

KEY TO THE GENERA.

- A. Anterior margin of pronotum straight; front strongly swollen, with a prominent median carina; tegmina dark with two yellow to orange-red crossbands. *Tomaspis*.
- AA. Anterior margin of pronotum rounded or angular; insects lacking, also, the combination of characters of the preceding genus.

- B. Tegmen with a membranous portion beyond veins, strongly deflexed posteriorly, apex of clavus broadly rounded. *Clastoptera.*
- BB. Tegmen without membranous portion beyond veins; apex of clavus acute.
- C. Margin of vertex above antenna compressed to a thin edge.
- D. Front swollen; apices of tegmina rounded; pronotum more or less carinate on median line; ocelli nearer each other than to eyes; beak surpassing hind coxae. *Aphrophora.*
- DD. Front scarcely swollen; apices of tegmina angulate; pronotum slightly sulcate medianly; ocelli about equally distant from eyes and from each other; beak reaching middle coxae. *Lepyronia.*
- CC. Margin of vertex above antenna truncate or even sulcate. *Philaenus.*<sup>1</sup>

*Tomaspis* Stål.

*T. bicincta* Say.—Frequent, but by no means common; dates of collection range from June 28 to August 17; P. I.

*Aphrophora* Germar.

KEY TO THE SPECIES.

- A. Costal region of tegmen with two large hyaline areas. *quadrinotata.*
- AA. Costal region without large definite hyaline areas.
- B. Front more swollen, produced as far if not slightly farther forward, than anterior margin of vertex; larger species, brown color rather uniformly distributed. *parallela.*
- BB. Front less swollen, retreating at an acute angle from anterior margin of vertex; smaller species, color more obviously distributed into darker and paler areas. *saratogensis.*
- A. quadrinotata* Say.—Fairly common; extreme dates of collection June 6 to August 12; P. I.
- A. parallela* Say.—Fairly common; has been collected from June 7 to August 14; food plant *Pinus virginiana*; V. P. I.
- A. saratogensis* Fitch.—Common on *Pinus virginiana*, June 4 to October 11; V. P. I.

*Lepyronia* Amyot and Serville.

KEY TO THE SPECIES.

- A. Larger species, general color pale brown, a dark V-shaped marking, based on costa, on each tegmen. *quadrangularis.*
- AA. Smaller species, general color dark brown, tegmina rather closely reticulated with dark markings, except on posterior third. *angulifera.*

<sup>1</sup> Has been taken as far south as North Carolina and may be found here.

*L. quadrangularis* Say.—Common; dates of collection range from June 15 to October 5; P. I.

*L. angulifera* Uhler.—The only record for this southern Coastal Plain species is Four-mile Run, Va., May 31, 1914, W. L. McAtee.

#### Clastoptera Germar.

The classification and nomenclature of this genus is much in need of revision. The principal basis for the existing conception of the group is Dr. E. D. Ball's 1895 paper.<sup>1</sup> This essay was prepared at a time when the proper differentiation of subspecies and varieties was of no moment among entomologists and when the niceties of nomenclature, also, were little observed. No one is more aware of its faults than its author and it is to be hoped Dr. Ball can find time to give us a revised classification not only of this genus but of the whole family. In the present paper, therefore, only such changes are made as seem necessary to rational treatment of the local species.

These changes relate to the following forms:

*Clastoptera proteus* var. *nigra* Ball.<sup>2</sup> Van Duzee has pointed out that this name is preoccupied by *C. nigra* Germar, and synonymizes it with *C. pini* Fitch.<sup>3</sup> However, our specimens which have been examined by Dr. Ball and pronounced his var. *nigra* certainly are not *pini* Fitch (our identification verified by Ball), but a distinct variety, if not species, which is here given a new name.

*Clastoptera xanthocephala* var. *glauca* Heidemann. According to Article 25a of the International Rules of Zoological Nomenclature (further construed in Opinion 1) and previously long accepted practise among zoologists, the name *glauca* as used by Heidemann<sup>4</sup> cannot be considered a *nomen nudum* as done by Van Duzee,<sup>5</sup> because it is accompanied by an illustration. The glaucousness referred to by Ball and subsequent describers is only an effect produced by the pallor and reflections from the polished surface, which latter character is common also to the dark variety. The real distinction of var. *glauca* is the pale color.

*Clastoptera pini* Fitch. Ball classed this form with *obtusa* and Van Duzee treats it as a variety of *proteus*, but to the writer it seems a distinct species, characterized by the less inflated face which is always pale, the more bluntly rounded vertex, and by the more numerous transverse wrinkles on the pronotum.

<sup>1</sup> A Study of the Genus *Clastoptera*, Proc. Iowa Ac. Sci. (1895), 1896, pp. 182-193, pls. 11-14.

<sup>2</sup> Op. cit., p. 187.

<sup>3</sup> Bul. Buffalo Soc. Nat. Sci., Vol. 10, 1912, p. 509; Catalogue of Hemiptera of America, 1917, p. 520.

<sup>4</sup> Proc. Ent. Soc. Wash., Vol. IV, No. 4, pp. 399-402, pl. 6.

<sup>5</sup> Catalogue, 1917, p. 519.

KEY TO THE SPECIES.

- A. Front more inflated; upper half of front black, loræ, clypeus and lower half of front yellow; pronotum with fewer transverse wrinkles. *proteus.*
  - AA. Front less inflated; upper half of front pale, or with transverse band or bands, sometimes interrupted; pronotum with more numerous transverse wrinkles.
    - B. Lower part of face with a dark, transverse band; front margin of vertex more produced and more strongly arcuate.
      - C. Larger species; a prominent transverse arcuate carina on vertex between eyes. *obtusa.*
      - CC. Smaller species; without such carina. *xanthocephala.*
    - BB. Face entirely pale, vertex less produced, front margin bluntly rounded. *pini.*
- C. proteus* Fitch.

KEY TO THE COLOR VARIETIES.

- A. Black above.
  - B. Uniformly black above; legs chiefly dark. **hyperici**, n. var.
  - BB. Membrane and adjacent parts of tegmina paler; legs chiefly yellow. **anceps**, n. var.
- AA. Not black above.
  - C. Clavus yellow with a lengthwise dark streak. *vittata.*
  - CC. Clavus colored otherwise.
    - D. Anterior two-thirds of clavus, base of scutellum and cross-bands on pronotum and head yellow. *proteus.*
  - DD. These markings orange-red. **candens**, n. var.

*Clastoptera proteus* var. **hyperici**, n. var. Gibson. Agreeing with *proteus* var. *proteus* in inflation of face, shape of vertex, striæ of pronotum and genitalia, but entirely black above and below, also, with the exceptions of lower part of face, clypeus, most of pectus, posterior two pairs of coxæ, two spots, or an interrupted stripe on lower surface of each of the anterior two pairs of tibiæ, a spot on anterior surface, near apex of each femur, the front pair sometimes excepted, apices of hind tibiæ except spurs, and hind tarsi, except spurs and last joint, pale yellow. Length, 2.5–3.5 mm.

Type, a male, Plummers Island, Md., July 5, 1914, on *Hypericum prolificum*, W. L. McAtee, Allotype, same data. Paratypes, same data, also same data except as to dates, July 14 and 26, 1914, and same locality, August 11, 1907, W. L. McAtee.

This variety has been seen also at Great Falls and at Occoquan, Va., in each case upon the same food plant being most abundant during the flowering season.

*Clastoptera proteus* var. **anceps**, n. var.—Black above, tegmina posterior of apical callous yellowish hyaline, explanate margin anterior of middle of costa sometimes same color; costal margin just anterior of apical callous clear hyaline; black below, except lower part of face, clypeus beak, most of pectus, and legs which are pale yellow with the following parts dark; an elliptical spot on clypeus, tip of beak, lengthwise streaks on anterior two pairs of femora, and tibiae and tarsi except the hind ones, of which the spines and terminal joints are dark. Length, 2.75–3.25 mm.

Type, a male, Beltsville, Md., June 14, 1914, W. L. McAtee. Paratypes, with same data, also same locality, July 4, 1915, W. L. McAtee, and Cranberry Lake, N. Y., August 5, 1917, C. J. Drake.

*Clastoptera proteus* var. **vittata** Ball.—Plummers Id., Md., July 1907, W. Palmer; Beltsville, Md., July 4, 1915, on *Azalea*, Odenton, Md., July 4, 1913, W. L. McAtee; New Alexandria, Va., July, 1907, W. Palmer.

*Clastoptera proteus* var. **proteus** Fitch.—Plummers Id., Md., July 6, H. S. Barber, July 7, R. P. Currie, August 17, 1906, E. A. Schwarz and H. S. Barber, July 4, 1907, Mt. Vernon, Va., June 27, 1905, on *Cornus*, W. L. McAtee; Eastern Branch, near Benning, D. C., July 4, 1913, A. Wetmore.

*Clastoptera proteus* var. **candens**, n. var.—Like var. *proteus* except that anterior two-thirds of clavus, scutellum, bands on pronotum and vertex and face are orange-red, instead of yellow, and other pale markings are ruddy tinged. Length, 3.25–4 mm.

Type, a female, Mt. Vernon, Va., June 27, 1915, on *Cornus*, W. L. McAtee. Two paratypes, same data.

The high color of these specimens is not due to the influence of cyanide, in the killing bottle, such as is sometimes observed in specimens of bees of the genus *Nomada* and certain other insects, but was noted at the time of collection. Certain animal pigments seem to be quite unstable and the yellow of *Clastoptera proteus* may be another instance. Crawfishes turn red after cooking, digestion in a bird's stomach, or weathering after death; and one of the species of southern range (*Cambarus clarkii*) is bright red in life. Some of the Eumenidæ having yellow markings in the north are red-patterned in the south. It would appear, therefore, that climatic factors affect certain pigments of living animals in the same way that chemical processes are known to affect them in the dead. The present newly described variety of *C. proteus* may be an example of such effect.

*C. obtusa* Say.

#### KEY TO THE VARIETIES.

- A. Scutellum and parts anterior, yellow to fulvous, without crossbands; tegmina fuscous posteriorly. *achatina*.
- AA. Vertex and pronotum with distinct crossbands.
- B. Crossbands on pronotum, or at least the posterior, dark, in great contrast to the pale ground color; tegmina dark, each with an irregular, oblique, pale crossband. *tristis*.

BB. Markings of dorsal surface less contrasted. *obtusa.*

*Clastoptera obtusa* var. *achatina* Germar.—Forest Glen, Md., September 15, 1915, Otto Heidemann; Plummers Id., Md., August 27, 1905, September 13, 1914; Stubblefield Fall, Va., July 4, 1918, on hickory; Mt. Vernon, Va., June 27, 1915, W. L. McAtee.

*Clastoptera obtusa* var. *obtusa* Say.—Common, dates of collection ranging from June 13 to November 3; has been taken on *Alnus rugosa* and *Carpinus caroliniana*. P. I.

*Clastoptera obtusa* var. *tristis* Van Duzee.—Common, with the last, with which it extensively intergrades; extreme dates of collection, June 7 and November 21; has been taken on the same plants as var. *obtusa*, also on hickory. P. I.

*C. xanthocephala* Germar.

KEY TO THE VARIETIES.

A. Color above chiefly black. *xanthocephala.*

AA. Color above chiefly yellowish brown. *glauca.*

*Clastoptera xanthocephala* var. *xanthocephala* Germar.—Common, season June 29 to October 5. P. I.

*Clastoptera xanthocephala* var. *glauca* Heidemann.—Common, has been collected from January 2 to November 3; winters among the foliage of *Pinus virginiana*. P. I.

*C. pini* Fitch.—Beltsville, Md., June 14, 1914, W. L. McAtee; June 28, 1917, on flowers of *Xolisma ligustrina*, L. O. Jackson; Glencarlynn to Barcroft, Va., July 18, 1915, W. L. McAtee.